

Contactor, 4 pole, AC operation: 160 A, RAC 240: 190 - 240 V 50/60 Hz,
Screw terminals



Part no. DILMP160(RAC240)
Catalog No. 109915
Alternate Catalog No. XTCF160G00B
EL-Nummer (Norway) 4130409

Delivery program

Product range	Contactors		
Application	Contactors for 4 pole electric consumers		
Subrange	Contactors up to 200 A, 4 pole		
Utilization category	AC-1: Non-inductive or slightly inductive loads, resistance furnaces AC-3/AC-3e: Normal AC induction motors: Starting, switching off while running		
Connection technique	Screw terminals		
Number of poles	4 pole		
Rated operational current			
AC-1			
Conventional free air thermal current, 3 pole, 50 - 60 Hz			
at 40 °C	$I_{th} = I_e$	A	160
at 50 °C	$I_{th} = I_e$	A	150
at 55 °C	$I_{th} = I_e$	A	143
at 60 °C	$I_{th} = I_e$	A	138
For use with	DILM150-XHI(A)(V)... DILM1000-XHI(V)... RAC 240: 190 - 240 V 50/60 Hz		
Actuating voltage			
Voltage AC/DC	AC operation		
Connection to SmartWire-DT	no		
Instructions	Contacts to EN 50 012. integrated suppressor circuit in actuating electronics Meets the requirements for voltage reduction protection as set out by VDE-AR-N 4105:2018-11.		

Technical data

General					
Standards	IEC/EN 60947, VDE 0660, UL, CSA				
Lifespan, mechanical					
AC operated	Operations	$\times 10^6$	5.7		
Operating frequency, mechanical					
AC operated	Operations/h		3600		
DC operated	Operations/h		3600		
Climatic proofing	Damp heat, constant, to IEC 60068-2-3 Damp heat, cyclic, to IEC 60068-2-30				
Ambient temperature					
Open	°C	-25 - +60			
Enclosed	°C	-25 - 40			
Storage	°C	-40 - 80			
Mechanical shock resistance (IEC/EN 60068-2-27)					
Half-sinusoidal shock, 10 ms					
Main contacts					
N/O contact	g	10			
Auxiliary contacts					
N/O contact	g	7			
N/C contact	g	5			
Degree of Protection	IP00				
Altitude	m	Max. 2000			

Protection against direct contact when actuated from front (EN 50274)			Finger and back-of-hand proof
Stripping length	mm	15	
Terminal capacity main cable			
Flexible with ferrule	mm ²	1 x (10 - 95) 2 x (10 - 70)	
Stranded	mm ²	1 x (16 - 120) 2 x (16 - 95)	
Solid or stranded	AWG	8 - 3/0	
Flat conductor	Lamellenzahl x Breite x Dicke	mm	2 x (6 x 16 x 0.8)
Terminal screw			M10
Tightening torque	Nm	14	
Stripping length	mm	15	
Terminal capacity control circuit cables			
Solid	mm ²	1 x (0.75 - 4) 2 x (0.75 - 4)	
Flexible with ferrule	mm ²	1 x (0.75 - 2.5) 2 x (0.75 - 2.5)	
Solid or stranded	AWG	18 - 14	
Stripping length	mm	10	
Terminal screw			M3.5
Tightening torque	Nm	1.2	
Tool			
Main cable			
Hexagon socket-head spanner	SW	mm	5
Control circuit cables			
Pozidriv screwdriver		Size	2
Standard screwdriver		mm	0.8 x 5.5 1 x 6

Main conducting paths

Rated impulse withstand voltage	U _{imp}	V AC	8000
Overvoltage category/pollution degree			III/3
Rated insulation voltage	U _i	V AC	690
Rated operational voltage	U _e	V AC	690
Safe isolation to EN 61140			
between coil and contacts		V AC	440
between the contacts		V AC	440
Making capacity (cos φ)	Up to 690 V	A	1330 According to IEC/EN 60947
Breaking capacity			
220 V 230 V		A	950
380 V 400 V		A	950
500 V		A	950
660 V 690 V		A	750
Short-circuit rating			
Short-circuit protection maximum fuse			
Type "2" coordination			
400 V	gG/gL 500 V	A	160
690 V	gG/gL 690 V	A	160
Type "1" coordination			
400 V	gG/gL 500 V	A	250
690 V	gG/gL 690 V	A	200

AC

AC-1			
Rated operational current			
Conventional free air thermal current, 3 pole, 50 - 60 Hz			
Open			
at 40 °C	I _{th} =I _e	A	160

at 50 °C	$I_{th} = I_e$	A	150
at 55 °C	$I_{th} = I_e$	A	143
at 60 °C	$I_{th} = I_e$	A	138
enclosed	I_{th}	A	128
Conventional free air thermal current, 1 pole			
open	I_{th}	A	415
enclosed	I_{th}	A	373
Motor rating	P	kWh	
220/230 V	P	kW	58
240 V	P	kW	63
380/400 V	P	kW	100
415 V	P	kW	109
440 V	P	kW	116
500 V	P	kW	132
690 V	P	kW	174
AC-3			
Rated operational current			
Open, 3-pole: 50 – 60 Hz			
Notes	At maximum permissible ambient temperature (open.) Also tested according to AC-3e.		
220 V 230 V	I_e	A	95
240 V	I_e	A	95
380 V 400 V	I_e	A	95
415 V	I_e	A	95
440 V	I_e	A	95
500 V	I_e	A	95
660 V 690 V	I_e	A	80
Motor rating	P	kWh	
220 V 230 V	P	kW	30
240 V	P	kW	33
380 V 400 V	P	kW	45
415 V	P	kW	57
440 V	P	kW	60
500 V	P	kW	70
660 V 690 V	P	kW	75

DC

Rated operational current, open			
DC-1			
60 V	I_e	A	160
110 V	I_e	A	160
220 V	I_e	A	160

Current heat loss

3 pole, at I_{th} (60°)	W	36.3
Impedance per pole	$m\Omega$	0.6

Magnet systems

Voltage tolerance			
AC operated 50 Hz	Pick-up	$\times U_c$	0.8 - 1.15
AC operated 50/60 Hz		$\times U_c$	0.8 - 1.15
Drop-out voltage AC operated	Drop-out	$\times U_c$	0.25 - 0.6
Power consumption of the coil in a cold state and $1.0 \times U_S$			
AC operated 50/60 Hz	Pick-up	VA	180
AC operated 50/60 Hz	Pick-up	W	150
AC operated 50/60 Hz	Sealing	VA	3.1
AC operated 50/60 Hz	Sealing	W	2.3
Duty factor		% DF	100

Changover time at 100 % U_S (recommended value)

Main contacts			
AC operated			
Closing delay	ms	28 - 33	
Opening delay	ms	35 - 41	
Permissible residual current with actuation of A1 - A2 by the electronics (with 0 signal).	mA	≤ 1	

Rating data for approved types

Switching capacity			
Maximum motor rating			
Three-phase			
200 V	HP	25	
208 V			
230 V	HP	40	
240 V			
460 V	HP	75	
480 V			
575 V	HP	100	
600 V			
Single-phase			
115 V	HP	7.5	
120 V			
230 V	HP	15	
240 V			
General use	A	125	
Short Circuit Current Rating	SCCR		
Basic Rating			
SCCR	kA	10	
max. Fuse	A	600	
max. CB	A	600	
480 V High Fault			
SCCR (fuse)	kA	30/100	
max. Fuse	A	300/300 Class J	
SCCR (CB)	kA	65	
max. CB	A	250	
600 V High Fault			
SCCR (fuse)	kA	30/100	
max. Fuse	A	300/300 Class J	
SCCR (CB)	kA	30	
max. CB	A	350	
Special Purpose Ratings			
Electrical Discharge Lamps (Ballast)			
480V 60Hz 3phase, 277V 60Hz 1phase	A	100	
600V 60Hz 3phase, 347V 60Hz 1phase	A	100	
Incandescent Lamps (Tungsten)			
480V 60Hz 3phase, 277V 60Hz 1phase	A	100	
600V 60Hz 3phase, 347V 60Hz 1phase	A	100	
Resistance Air Heating			
480V 60Hz 3phase, 277V 60Hz 1phase	A	110	
600V 60Hz 3phase, 347V 60Hz 1phase	A	110	
Refrigeration Control (CSA only)			
LRA 480V 60Hz 3phase	A	540	
FLA 480V 60Hz 3phase	A	90	
LRA 600V 60Hz 3phase	A	420	
FLA 600V 60Hz 3phase	A	70	
Elevator Control			
200V 60Hz 3phase	HP	20	
200V 60Hz 3phase	A	62.1	

240V 60Hz 3phase	HP	30
240V 60Hz 3phase	A	80
480V 60Hz 3phase	HP	60
480V 60Hz 3phase	A	77
600V 60Hz 3phase	HP	75
600V 60Hz 3phase	A	77

Design verification as per IEC/EN 61439

Technical data for design verification			
Rated operational current for specified heat dissipation	I_n	A	160
Heat dissipation per pole, current-dependent	P_{vid}	W	12.1
Equipment heat dissipation, current-dependent	P_{vid}	W	36.3
Static heat dissipation, non-current-dependent	P_{vs}	W	2.3
Heat dissipation capacity	P_{diss}	W	0
Operating ambient temperature min.		°C	-25
Operating ambient temperature max.		°C	60
IEC/EN 61439 design verification			
10.2 Strength of materials and parts			
10.2.2 Corrosion resistance			Meets the product standard's requirements.
10.2.3.1 Verification of thermal stability of enclosures			Meets the product standard's requirements.
10.2.3.2 Verification of resistance of insulating materials to normal heat			Meets the product standard's requirements.
10.2.3.3 Verification of resistance of insulating materials to abnormal heat and fire due to internal electric effects			Meets the product standard's requirements.
10.2.4 Resistance to ultra-violet (UV) radiation			Meets the product standard's requirements.
10.2.5 Lifting			Does not apply, since the entire switchgear needs to be evaluated.
10.2.6 Mechanical impact			Does not apply, since the entire switchgear needs to be evaluated.
10.2.7 Inscriptions			Meets the product standard's requirements.
10.3 Degree of protection of ASSEMBLIES			Does not apply, since the entire switchgear needs to be evaluated.
10.4 Clearances and creepage distances			Meets the product standard's requirements.
10.5 Protection against electric shock			Does not apply, since the entire switchgear needs to be evaluated.
10.6 Incorporation of switching devices and components			Does not apply, since the entire switchgear needs to be evaluated.
10.7 Internal electrical circuits and connections			Is the panel builder's responsibility.
10.8 Connections for external conductors			Is the panel builder's responsibility.
10.9 Insulation properties			
10.9.2 Power-frequency electric strength			Is the panel builder's responsibility.
10.9.3 Impulse withstand voltage			Is the panel builder's responsibility.
10.9.4 Testing of enclosures made of insulating material			Is the panel builder's responsibility.
10.10 Temperature rise			The panel builder is responsible for the temperature rise calculation. Eaton will provide heat dissipation data for the devices.
10.11 Short-circuit rating			Is the panel builder's responsibility. The specifications for the switchgear must be observed.
10.12 Electromagnetic compatibility			Is the panel builder's responsibility. The specifications for the switchgear must be observed.
10.13 Mechanical function			The device meets the requirements, provided the information in the instruction leaflet (IL) is observed.

Technical data ETIM 8.0

Low-voltage industrial components (EG000017) / Power contactor, AC switching (EC000066)		
Electric engineering, automation, process control engineering / Low-voltage switch technology / Contactor (LV) / Power contactor, AC switching (ecl@ss10.0.1-27-37-10-03 [AAB718015])		
Rated control supply voltage Us at AC 50Hz	V	190 - 240
Rated control supply voltage Us at AC 60Hz	V	190 - 240
Rated control supply voltage Us at DC	V	0 - 0
Voltage type for actuating		AC
Rated operation current Ie at AC-1, 400 V	A	160
Rated operation current Ie at AC-3, 400 V	A	95
Rated operation power at AC-3, 400 V	kW	45
Rated operation current Ie at AC-4, 400 V	A	65

Rated operation power at AC-4, 400 V	kW	33
Rated operation power NEMA	kW	55
Modular version		No
Number of auxiliary contacts as normally open contact		0
Number of auxiliary contacts as normally closed contact		0
Type of electrical connection of main circuit		Screw connection
Number of normally closed contacts as main contact		0
Number of normally open contacts as main contact		4